

REMARKS

Claims 1-8 and 10-24 are pending. By this Amendment, the subject matter of now-canceled 9 is incorporated into claim 1. The dependencies of claims 18-22 are amended accordingly. No new matter is added.

Claims 1-24 are rejected under 35 USC 103(a) as being obvious over Mehan (U.S. Patent No. 5,468,782) and Scoggins et al. (U.S. Patent No. 3,767,634) or Nakagawa et al. (U.S. Patent No. 4,513,129) or Abusleme et al. (U.S. Patent No. 6,391,975). This rejection is traversed as it may apply to the amended claims.

Applicants note that the E-CTFE copolymers of Mehan are excluded from the present claims.

Applicants point out that the gist of the present invention is in that there are disclosed foamed molded articles formed by CTFE-based polymer compositions having improved electrical insulation properties (see the present specification, page 2, first paragraph). Said CTFE-based polymer compositions are foamable without using any known foaming agents (see the present specification, page 7, last paragraph).

In the present specification, page 3, second and third paragraphs, there are described drawbacks of the known foaming agents with respect to the desired electrical insulation properties of the foamed CTFE-based fluoropolymer. In fact, said traditional foaming agents give volatile products by decomposition, worsening the insulation properties of the CTFE-based copolymers.

Also foaming agents in the form of inert gas have a drawback in that they need a complex and expensive equipment to guarantee uniformity of electric wire.

Applicants note that “CTFE-based copolymers” means copolymers having CTFE units in amount at least 80% by moles (see claim 1).

Mehan essentially deals with ethylene-chlorotrifluoroethylene (ECTFE) copolymers wherein CTFE units are in amounts between 40 and 60% (see Mehan col. 3 lines 21-22). Therefore, the amount of CTFE units in D1 is far lower than the claimed limit of at least 80% by moles.

Further, Applicant respectfully point out that Mehan explicitly states that preferably positive steps are taken to foam the composition as it is melt-extruded using a foaming agent which decomposes into a gas as the composition is extruded, and/or a gaseous foaming agent which is injected into the composition as it is being extruded (see Mehan, col. 4 lines 46-51).

Accordingly, Example 1 of Mehan uses as foaming agent perfluoro-pentane (see col. 5 lines 34-35).

Therefore, actually, Mehan teaches away from the present invention since the gist of the present invention is to avoid the decomposition products of any foaming agents which would cause worse electrical insulation properties of the foamed CTFE-based copolymers.

In any case, the above-discussed statement of Mehan concerning the preferred use of foaming agents for providing electrical insulation refers only to polymer compositions of Mehan where CTFE is lower than 60% and the other comonomer always is ethylene.

Instead, the present CTFE-based polymers are far different from those of Mehan as containing more than 80% by moles of CTFE units, and the other comonomer being selected from the group of amended claim 1, wherein ethylene comonomer is absent.

One of skill in the art having to solve the above technical problem (i.e. improving electrical insulation of CTFE-based copolymers by eliminating decomposition products of any foaming agents) would not have found any useful teaching in Mehan since the polymer compositions are substantially different.

In fact, foamed agents which are preferably used in Mehan are, instead, a drawback for the present case.

Owing to the amendment in claim 1, which excludes ethylene co-monomer from the claimed copolymers with CTFE, also Scoggins et al. and Nakagawa et al. are not relevant, since they concern only E-CTFE copolymers and their properties.

The Office Action asserts that it would have been obvious to choose different polymer with expected differences in properties and substituting it in the Mehan's polymer compositions with the obvious expectation of the same properties taught by the references.

However, since no E-CTFE copolymer is concerned in the new amended claims, no relevant indication can be found in Mehan even if considered in combination with Scoggins et al. and/or Nakagawa et al.

Abusleme shows copolymers of CTFE with perfluoroalkylvinylethers (PAVE) only limiting to the polymerization process for preparing them, which is not object of the present invention.

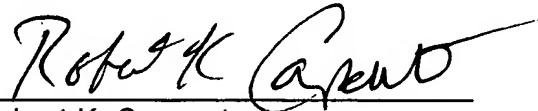
In conclusion, the skilled in the art having to solve the technical problem of improving insulating properties of foamed CTFE-based copolymers as listed in claim 1, would not have found any slight indication or any exemplification in the cited references that it is possible to solve said technical problem by using only nucleating agent PTFE fine powder, then omitting any foaming agents.

Therefore, the present invention would not have been obvious over the cited references, even if considered in combination with each other

Thus, in view of the above, it is submitted that this application is in condition for allowance. If for any reason, the Examiner determines that the application is not now in condition for allowance, it is respectfully requested that the Examiner contact the Applicants' undersigned attorney at the indicated telephone number to arrange for an interview to expedite the disposition of this application.

In the event this paper has not been timely filed, the Applicants respectfully petition for an appropriate extension of time. Any fees for such an extension, together with any additional fees that may be due with respect to this paper, may be charged to counsel's Deposit Account No. 01-2300.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Robert K. Carpenter", written over a horizontal line.

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